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EXAMINER	
SAMSON, SARA B	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,765	TAKEUCHI, ISAO	
	Examiner	Art Unit	
	SARA SAMSON	4147	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *bett3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,5 and 7-10* is/are rejected.

7)☒ Claim(s) *3,6 and 11* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *3/29/2006* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *3/29/2006,4/22/2009*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 1, 2, 3, 4, 5, 6, 7, and 8 are objected to because of the following informalities: It is unclear if the response signal is related to the received carrier wave signal. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 5, 7, 8, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Nysen (US 6,107,910).

4. As per claim 1, Nysen discloses an apparatus comprising a signal-transmitting unit that transmits the carrier wave signal to the signal-responding member ***(Landt (US 4,888,591) incorporated by reference into Nysen; Fig. 1, Col. 3 lines 31-34 "Transmitter 10 sends the phase modulated carrier through receiver/detector 11 to antenna 14, which in turn is transmitted by antenna 14 to tag 13." Fig. 1 in Landt corresponds for figure 31 in Nysen)***; and a signal-processing unit that receives and processes the response signal scattered from the signal-responding member ***(Landt Fig. 1, Col. 3 lines 38-41 "The modulated backscattered signal is returned to antenna 14 [from the tag] and then on to receiver/detector 11, where it is received and compared in the detector to a reference signal")***, wherein the signal-

processing unit is provided with a carrier-wave-compensating circuit ***(Fig. 34:352)***, the carrier-wave-compensating circuit comparing a phase of the carrier wave signal in transmitting the carrier wave signal with a phase of the carrier wave signal in receiving the carrier wave signal ***(Landt Col. 3 lines 41-41 "The reference signal is the same as the transmitted, phase-modulated carrier signal coupled to receiver 11 through line 15 at node A." Fig. 4 Col. 5 lines 5-8 "Mixer 52 compares the reference signal on line 51 from the directional coupler 50 with the returned signal on line 58 from port 57 of circulator 54. Preferably, mixer 52 is a double-balanced mixer used as a phase comparator." Mixer 52 in Landt corresponds to mixer 352 in Nysen.)***, and eliminating therefrom any carrier wave signal that is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal on the basis of a comparison result thereof ***(Nysen Col. 34 lines 40-47 "Where the correlation is poor, the input signal at node B to decode/demodulator 312 is of a sufficiently low amplitude below the decoder/demodulator sensitivity, and is thus ignored." Therefore, any signal that is not synchronized, having poor correlation is effectively eliminated because the correlation factor reduces the amplitude of the received signal to a level in which it can not be detected.).***

5. As per claim 2, Nysen further discloses the apparatus as claimed in claim 1. Nysen further discloses an information-processing apparatus wherein the carrier-wave-compensating circuit includes: a phase synchronization detection unit that compares a phase of the carrier wave signal in transmitting the carrier wave signal with a phase of the carrier wave signal in receiving the carrier wave signal ***(Landt Col. 3 lines 41-43***

"The reference signal is the same as the transmitted, phase-modulated carrier signal coupled to receiver 11 through line 15 at node A." Fig. 4 Col. 5 lines 5-8 "Mixer 52 compares the reference signal on line 51 from the directional coupler 50 with the returned signal on line 58 from port 57 of circulator 54. Preferably, mixer 52 is a double-balanced mixer used as a phase comparator." Mixer 52 in Landt corresponds to mixer 352 in Nysen.) and detects a carrier wave signal that is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal ***(Nysen Fig. 34:352, Fig. 35: 370, 373, 370,374 Col 33 line 27- Col 34 line 20 Mixer (352) correlates the phase and amplitude of the reference signal (transmitted signal) with the returned signal (received signal). A carrier wave signal that is not synchronized is detected by the mixer because the signal will have a poor correlation factor.)***; and an amplitude-controlling unit that eliminates therefrom the carrier wave signal, which is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal, detected in the phase synchronization detection unit ***(Nysen Col. 34 lines 40-47 "Where the correlation is poor, the input signal at node B to decode/demodulator 312 is of a sufficiently low amplitude below the decoder/demodulator sensitivity, and is thus ignored." Therefore, any signal that is not synchronized, having poor correlation is effectively eliminated because the correlation factor reduces the amplitude of the received signal to a level in which it can not be detected.).***

6. As per claim 4, Nysen discloses a wireless communication system comprising a signal-responding member that receives a carrier wave signal having a prescribed

frequency ***(Landt Col. 3 lines 31-38 "Transmitter 10 sends the phase modulated carrier through receiver/detector 11 to antenna 14, which in turn is transmitted by antenna 14 to tag 13. Tag 13… receives and modulates the backscatter of the transmitted phase modulated carrier signal." Col. 3 lines 53-55 "In the illustrated preferred embodiment, transmitter 10 includes a 915 MHz oscillator 20 which provides the carrier signal.")*** and transmits a response signal obtained by modulating the carrier wave signal based on the prescribed data ***(Modulating the carrier wave signal based upon prescribed data is inherent in the tag. Col. 10 lines 1-5 Additionally, Nysen discloses "a device for receiving information from a remote tag, the tag having information stored in a memory and a modulator for frequency modulating an incident signal based on the stored information.")*** and an information-processing apparatus having a wireless transmission and reception function ***(Landt Fig. 1:10,11,12,14 Col.3 lines 29-41 The information process apparatus comprises transmitter 10, receiver detector 11, decoder/demodulator 12, and antenna 14. The apparatus transmits carrier waves to the tag and receives modulated backscatter signals from the tag via antenna 14.)*** the information-processing apparatus transmitting the carrier wave signal to the signal-responding member ***(Landt col. 3 lines 31-34 "Transmitter 10 sends the phase modulated carrier through receiver/detector 11 to antenna 14, which in turn is transmitted by antenna 14 to tag 13.")*** and receiving and information-processing the response signal scattered from the signal-responding ***(Landt Col. 3 lines 38-41 "The modulated backscattered signal is returned to antenna 14 and then on to receiver/detector***

11, where it is received and compared in the detector to a reference signal.")

wherein the information-processing apparatus including a carrier-wave-compensating circuit that compares a phase of the carrier wave signal in transmitting the carrier wave signal with a phase of the carrier wave signal in receiving the carrier wave signal ***(Landt Col. 3 lines 31-34 "The reference signal is the same as the transmitted, phase-modulated carrier signal coupled to receiver 11 through line 15 at node A." Fig. 4 Col. 5 lines 5-8 "Mixer 52 compares the reference signal on line 51 from the directional coupler 50 with the returned signal on line 58 from port 57 of circulator 54. Preferably, mixer 52 is a double-balanced mixer used as a phase comparator.")*** and eliminates therefrom any carrier wave signal that is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal on the basis of a comparison result thereof ***(Col. 7 lines 43-46 "Where the correlation is poor, the input signal at node B to decode/demodulator 312 is of a sufficiently low amplitude below the decoder/demodulator sensitivity, and is thus ignored." Therefore, any signal that is not synchronized, having poor phase correlation is eliminated because effects of the correlation factor effectively reduce the signal to null.)***.

7. As per claim 5, Nysen discloses the wireless communication system according to Claim 4. Nysen further discloses a wireless communication system wherein the carrier-wave-compensating circuit includes: a phase synchronization detection unit that compares a phase of the carrier wave signal in transmitting the carrier wave signal with a phase of the carrier wave signal in receiving the carrier wave signal ***(Landt Col. 3***

lines 31-34 "The reference signal is the same as the transmitted, phase-modulated carrier signal coupled to receiver 11 through line 15 at node A." Fig. 4 Col. 5 lines 5-8 "Mixer 52 compares the reference signal on line 51 from the directional coupler 50 with the returned signal on line 58 from port 57 of circulator 54. Preferably, mixer 52 is a double-balanced mixer used as a phase comparator.") and detects a carrier wave signal that is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal ***(Nysen Fig. 34:352, Fig. 35: 370, 373, 370,374 Col 33 line 27- Col 34 line 20 Mixer (352) correlates the phase and amplitude of the reference signal (transmitted signal) with the returned signal (received signal). A carrier wave signal that is not synchronized is detected by the mixer because the signal will have a poor correlation factor.)***; and an amplitude-controlling unit that eliminates therefrom the carrier wave signal, which is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal, detected in the phase synchronization detection unit ***(Nysen Col. 34 lines 40-47 "Where the correlation is poor, the input signal at node B to decode/demodulator 312 is of a sufficiently low amplitude below the decoder/demodulator sensitivity, and is thus ignored." Therefore, any signal that is not synchronized, having poor correlation is effectively eliminated because the correlation factor reduces the amplitude of the received signal to a level in which it can not be detected.).***

8. As per claim 7, Nysen discloses the wireless communication system according to Claim 4. Nysen further discloses a wireless communication system wherein the signal-

responding member is used with it being attached to a prescribed object to be specified ***(Col. 1 lines 23-26 Landt discloses attaching tags to objects.)***.

9. As per claim 8, Nysen discloses the wireless communication system according to Claim 4. Nysen further discloses a wireless communication system wherein the signal-responding member comprises: an antenna body that receives the carrier wave signal ***(Fig. 31:313 Tag 313 inherently possesses an antenna to receive the carrier wave signal.)***; a memory unit that stores the data ***(The tag inherently possesses memory. Additionally, Nysen discloses Col. 10 lines 2-3 "... the tag having information stored in a memory...")***; an amplitude modulation unit that performs amplitude modulation on the carrier wave signal based on the data read out of the memory unit ***(Modulating the carrier wave signal based upon prescribed data is inherent in the tag. Col. 10 lines 1-5 Additionally, Nysen discloses "a device for receiving information from a remote tag, the tag having information stored in a memory and a modulator for frequency modulating an incident signal based on the stored information.")*** and a power-supplying unit that supplies induced power to the memory unit and the amplitude modulation unit, the induced power being induced based on the carrier wave signal received by the antenna body **(*It is well know in the art that passive tags receive induced power from interrogators/readers.)***.

10. As per claim 9, Nysen discloses a wireless communication method of a back-scattering communication scheme comprising the steps of: attaching to an object to be specified a signal-responding member that receives a carrier wave signal having a prescribed frequency ***(Landt Col. 3 lines 31-38 "Transmitter 10 sends the phase***

modulated carrier through receiver/detector 11 to antenna 14, which in turn is transmitted by antenna 14 to tag 13. Tag 13… receives and modulates the backscatter of the transmitted phase modulated carrier signal." Col. 3 lines 53-55 "In the illustrated preferred embodiment, transmitter 10 includes a 915 MHz oscillator 20 which provides the carrier signal.") and transmits a response signal obtained by modulating the carrier wave signal based on the prescribed data ***(Modulating the carrier wave signal based upon prescribed data is inherent in the tag. Col. 10 lines 1-5 Additionally, Nysen discloses "a device for receiving information from a remote tag, the tag having information stored in a memory and a modulator for frequency modulating an incident signal based on the stored information." It is well known in the art to use frequency, amplitude, and phase modulation interchangeably.)*** transmitting the carrier wave signal to the signal-responding member attached to the object ***(Landt col. 3 lines 31-34 "Transmitter 10 sends the phase modulated carrier through receiver/detector 11 to antenna 14, which in turn is transmitted by antenna 14 to tag 13.")*** and receiving and signal-processing the response signal return from the signal-responding member ***(Landt Fig. 1, Col. 3 lines 38-41 "The modulated backscattered signal is returned to antenna 14 [from the tag] and then on to receiver/detector 11, where it is received and compared in the detector to a reference signal")***, wherein a phase of the carrier wave signal in transmitting the carrier wave signal with a phase of the carrier wave signal in receiving the carrier wave signal are compared ***(Landt Col. 3 lines 31-34 "The reference signal is the same as the transmitted, phase-modulated carrier signal***

coupled to receiver 11 through line 15 at node A." Fig. 4 Col. 5 lines 5-8 "Mixer 52 compares the reference signal on line 51 from the directional coupler 50 with the returned signal on line 58 from port 57 of circulator 54. Preferably, mixer 52 is a double-balanced mixer used as a phase comparator.") and a carrier wave signal that is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal is eliminated on the basis of a comparison result thereof ***(Col. 34 lines 40-47 "Where the correlation is poor, the input signal at node B to decode/demodulator 312 is of a sufficiently low amplitude below the decoder/demodulator sensitivity, and is thus ignored." Therefore, any signal that is not synchronized, having poor correlation is effectively eliminated because the correlation factor reduces the amplitude of the received signal to a level in which it can not be detected.)***.

11. As per claim10, Nysen discloses the method as claimed in claim 5. Nysen further discloses a wireless communication method wherein a phase of the carrier wave signal in transmitting the carrier wave signal with a phase of the carrier wave signal in receiving the carrier wave signal are compared ***(Landt Col. 3 lines 31-34 "The reference signal is the same as the transmitted, phase-modulated carrier signal coupled to receiver 11 through line 15 at node A." Fig. 4 Col. 5 lines 5-8 "Mixer 52 compares the reference signal on line 51 from the directional coupler 50 with the returned signal on line 58 from port 57 of circulator 54. Preferably, mixer 52 is a double-balanced mixer used as a phase comparator.")***; a carrier wave signal that is not synchronized with the phase of the carrier wave signal in transmitting the carrier

wave signal; and the detected carrier wave signal, which is not synchronized with the phase of the carrier wave signal in transmitting the carrier wave signal is eliminated therefrom ***(Col. 34 lines 40-47 "Where the correlation is poor, the input signal at node B to decode/demodulator 312 is of a sufficiently low amplitude below the decoder/demodulator sensitivity, and is thus ignored." Therefore, any signal that is not synchronized, having poor correlation is effectively eliminated because the correlation factor reduces the amplitude of the received signal to a level in which it can not be detected.)***

Allowable Subject Matter

12. Claims 3, 6, and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARA SAMSON whose telephone number is (571)270-5185. The examiner can normally be reached on M-F 7:30-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hai Tran can be reached on (571)272-7305. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SARA SAMSON/
Examiner, Art Unit 4147

/GEORGE BUGG/
Primary Examiner, Art Unit 4147